

# Electronic Fund Transfers : Compulsion or Necessity

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## Abstract

Electronic Funds Transfers are an intrinsic and innate constituent of the banking sector. The paper envisages the unquestionable benefits that accrue from e-transfers or digital transactions. The unchallenged factors like connectivity, proper customer data, identification, security, switching gateways, and clearing houses in foreign banks operating in India were thoroughly reviewed and analyzed in the research study. The methodology of the research paper included literature review, extraction of variables, questionnaire formulation, pilot testing, data collection from primary as well as secondary resources, and application of statistical tools with the help of SPSS software. The major findings relate to the usage, concentration, comfort ability, acceptance, security, and growth of such features in the banking industry. The paper also recommends bankers to find gateways to overcome the pitfalls in electronic funds transfers and related features. Care should also be taken by customers by adhering to the processes and following of instructions correctly by service providers.

**Keywords:** e-transfers, electronic fund transfers, foreign banking, online banking

## I. INTRODUCTION

Electronic Funds Transfer or Point-of-Sale networks process, route, clear, and settle ATM and on-line POS debit card transactions through card issuers and merchant acquirers, consumers, merchants, and third-party service providers through telecommunication gateways. The network's primary role includes routing transactions through central switching gateways, acting as clearing-houses to settle network member on-use transactions, and forwarding foreign non-member transactions for processing. A number of transactions may be performed through it:

- 1) Sale: cardholder pays for goods or service;
- 2) Refund: merchant refunds an earlier payment made by a cardholder;
- 3) Withdrawal: cardholder withdraws funds from their account, e.g. from an ATM. The term cash advance may be used, when the funds are advanced by a merchant rather than at an ATM;
- 4) Deposit: cardholder deposits funds to their own account at an ATM;
- 5) Cashback: cardholder withdraws funds from their own account at the same time as making a purchase;
- 6) Inter-account transfer: transferring funds between linked accounts belonging to the same cardholder;

- 7) Payment: transferring funds to a third party account;
- 8) Inquiry: transaction without financial impact, for instance balance inquiry, available funds inquiry, linked accounts inquiry, or request for a statement of recent transactions on the account, and
- 9) Administrative: covers a variety of non-financial transactions including PIN change.

### A. Basic Transaction Model

Most of the banks and non-bank ATM and fund transfers networks are connected to regional and national Electronic Fund Transfer/ Point of Sale (EFT/POS) networks. Most of the regional networks are joint ventures owned/ controlled by competing financial organizations. Ownership in regional networks can either be concentrated in several financial institutions or dispersed among dozens of member banks. Few of regional networks function as cooperatives, while a single firm may own and operate one as a profit-making enterprise. Visa and MasterCard own and operate the two national EFT/POS networks: Visa's Plus, MasterCard's Cirrus ATM networks, Visa's Interlink and MasterCard's Maestro POS networks. These national networks serve as a bridge between regional networks, and permit transaction information to be routed from one regional

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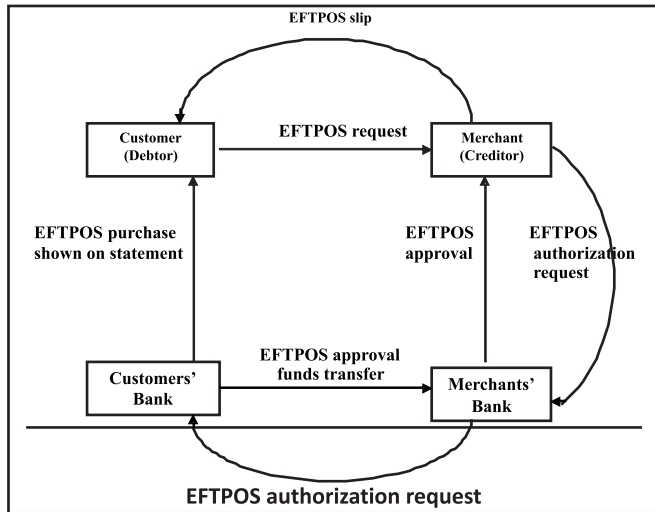
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network to another. Membership in regional and national EFT/POS network facilitates universal access to banks card-based electronic services, providing participant banks with an interchange system offering authorization, clearing, and settlement services.

**Fig 1. Electronic Funds Transfer/Point of Sale Transaction**



Source: <http://www.intelesystems.com/>

The banks charge fee from consumers for foreign ATM usage, help defray the cost of membership services. Acquirers collect interchange fee from network members (issuers) to cover the cost of operations. With ATM transactions, issuer pays the acquirer, in contrast to credit and debit card networks. EFT/POS networks clear both ATM and debit card (PIN-based) transactions. Banks rely on third-party service providers to conduct ATM and debit card payment processing. Third-party processors provide a range of retail payment-related services, including card issuing; merchant; account maintenance; authorization; transaction routing; gateway; off-line debit processing; clearing, and settlement services.

Although banks may use third parties to perform acquiring activities, acquiring bank is responsible for all third-party processor and merchant activity. Independent sales organizations (ISO) provide third-party services to install and operate ATM and POS terminals for financial institutions and merchants. Representing merchants and community financial institutions, an ISO contracts with third-party processors for a variety of services including ATM and POS terminal driving, transaction processing, and cash restocking. Some EFT/POS networks require an ISO to be sponsored by a financial institution member of the network [1].

## B. RAMIFICATIONS OF STRUCTURED FUND TRANSFERS

### 1) Standard Transaction

This is a four party transaction, involved when using Visa or MasterCard. The four parties in a pay-and-be-paid network are:

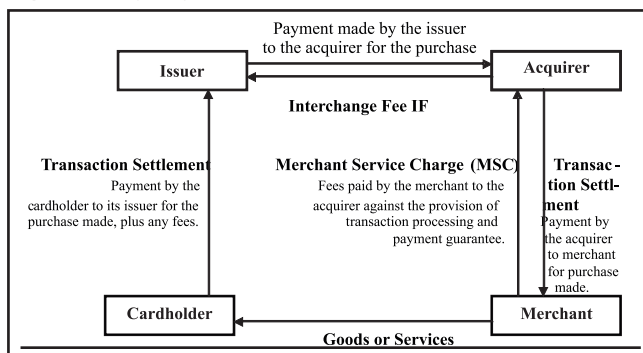
- a) Cardholders who are guaranteed acceptance;
- b) Merchants who are guaranteed payments;
- c) Acquiring banks that facilitate merchants payments; and
- d) Issuing banks which serve their cardholders.

Upon receiving the card from the customer, the retailer (or merchant) transmits this information to its bank, known as the acquirer, or merchant bank. To complete the purchase, the merchant bank transfers the information to the bank that issued the card to the customer, which is known as the issuing bank. The issuing bank charges the consumer's account and pays the merchant bank, which, in turn, provides fund to the retailer. There are a number of services provided at various steps of the process and the cost of these services should be covered. Visa stands between the issuing bank and the merchant bank, processing the requests from the merchant bank to the cardholder's issuing bank. The fee charged by issuing bank for this function is known as the 'inter-change fee'. The inter-change fee is the amount that an acquiring bank pays to the issuing bank for purchase transactions. The inter-change fee averages 1.75% of each transaction's price. Merchant bank, which deals with the retailer, charges the merchant a fee for the transaction as well. This fee plus the inter-change fee is known as the 'merchant discount'. The merchant discount averages 2.15% per transaction. The issuing bank provides customers with access to credit charges a fee for credit and services of the network, which is collected through the interest rate on the card and annual fee.

Four-party transactions have led to two allegations:

- 1) The fee for each transaction is clearly lower than the fee on three-party transaction; the overall volume of four-party transactions is much higher; making total fees paid a greater expense for many merchants.
- 2) In four-party transactions, card networks like Visa establish the price for thousands of issuing bank which leads to charges of collusion and price fixing. On the contrary, without inter-change, thousands of agreements would have to be established between the individual issuing banks and merchant banks in order to achieve the same degree of universal acceptance. Inter-change fee reduces overall transaction cost and expands the scope of the market for merchants and consumers.

**Fig. 2. Four party transaction Model Transaction settlement**



Source: [www.mastercard.com/us/company/en/corporate/interchange\\_fees\\_europe.htm](http://www.mastercard.com/us/company/en/corporate/interchange_fees_europe.htm)

The four party model is designed to drive benefits for all parties in a payment transaction:

- 1) For consumers: Increased international acceptance of their cards, innovative card products, and solutions.
- 2) For merchants: Enhanced competition for card acceptance services that drives increased efficiencies and increasing value, particularly for small and medium size merchants. Increased standardization helping to reduce technology costs such as terminals. Greater innovation increasing the payment options available to merchants such as offline authorization for low-value payments, and access to a larger cardholder base.
- 3) For banks: The ability to consolidate international card processing activities into common platforms reducing costs with increased efficiencies and innovative products to support competitive advantage in the market place.

**2) Three-party Transaction:** Card issuers such as 'American Express' and 'Discover' process transactions for their own customers. This is a closed system, and rather than a number of competing banks serving as issuing banks and other banks as merchant banks, these companies handle both sides of the transactions by issuing cards and signing up merchant banks. In this case, the interchange fee is an implicit fee that is incorporated into the merchant discount. The merchant discount for most of three party transactions has been higher than the fee for four-party transactions i.e. an average of 2.5% versus a merchant discount averaging 2.15% for a four-party transaction. Three party transactions account for much less of the total volume of transactions. Four-party transaction of Visa and MasterCard provide a majority of the business at a lower rate. The debatable aspect of these transactions has been the inter-change fee, or the fees collected by the issuing bank for processing requests from merchant banks [2].

Bank's income from credit cards can be divided into four components, annual fee, revolving fee, inter-change fee, and other fees. Revolving fee is interest charge for revolving credit and constitutes a major portion of income from credit card operations. The use of revolving facilities is expected to increase due to decrease in the interest rate charged to cardholders when it drops from current 2.95% to 2%. With increasing card acceptance and usage, banks are getting large portion of their revenue from consumer transactions rather than through annual fees. Annual fees, as a percentage of total income from credit cards declined from 80% to 10% [3].

A cardholder should be aware of the fees associated with the credit card so that the card can be managed accordingly. Cash advances can be problematic as higher interest rates are charged and a service fee related to how much cash one is withdrawing. One should look out for cards that offer lower interest rates. Cardholder making minimum payments commits mistake as money on interest can be saved. If the cards are not in use, a holder can ask the credit reporting bureaus to remove the discarded cards from the report noting that he is not the creditor and the account is closed [4].

Since the first bank credit card was issued in 1951, Visa USA, and Master Card International have dominated the card business. United States' addiction to plastic gives billions of dollars in interest charges and fees. First Data, Payment processing Company, owned electronic payment networks will help process more than 37% of credit-card transactions and 82% of money transfers via its western Union subsidiary. By charging the fees for running the network, First data's revenue increased by \$2 billion (\$ 9.6 billion). Wal-Mart Stores would no longer accept MasterCard's signature based debit cards and will accept PIN-based debit cards. First Data will offer banks its own credit cards and will give the banks a larger section of the transaction fee than they get from Visa and MasterCard. Banks will charge lower fees or interest rates to win over the consumers to the new cards. First Data are the first to launch Biometric cards that use thumbprints for security [3].

## II. RESEARCH METHODOLOGY

### A. Objectives

- 1) Analyzing the electronic fund transfers system in the foreign banks operating in India.
- 2) Evaluating the essential needs of the Indian customers in the changing market conditions.
- 3) Assessing the level of acceptability and concentration

of the electronic fund transfer system.

### B. Primary Tools

- 1) Collection of literature from libraries, educational institutions, and foreign banks
- 2) Conducting survey using a structured questionnaire on foreign bank customers in two cities of NCR and twin cities of Hyderabad and Secunderabad.

### C. Secondary Tools

- 1) Study of financial reports
- 2) Journals and periodicals

### D. Sampling Plan

The Universe of the survey included customers of the foreign banks operating in two regions. Convenience

sampling was adopted, so the customers who were present at foreign banks' branches in two cities at the time of survey were pursued personally to fill the questionnaires. Customers were surveyed in two metro cities of NCR/New Delhi and Hyderabad/Secunderabad. In convenience sampling, samples obtained out of selecting such units in a vast universe that may be conveniently shortlisted and contacted at a point of time or period on locations specified.

## III. DATA ANALYSIS AND INTERPRETATION

Data was analyzed with the help of SPSS software and statistical tools like chi square.

\* 17.1% of customers are not satisfied with the security of e-transactions through internet, mobile or ATMs.

\* 52.6% of customers are satisfied with the security of e-

TABLE I.

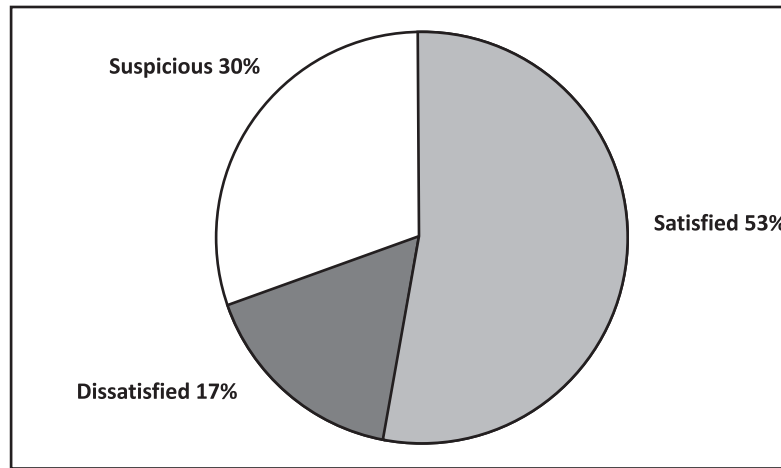
### CUSTOMERS OF DIFFERENT AGE GROUPS SATISFIED WITH THE SECURITY OF E-TRANSACTIONS THROUGH INTERNET, MOBILE OR ATMS.

Satisfaction		Age of the customer					Total
		Upto 20	21-30	31-40	41-50	51-60	
No	Count	11	10	23	6	10	60
	% within: Are you satisfied with the security of e-transactions through internet, mobile or ATMs	18.3%	16.7%	38.3%	10.0%	16.7%	100.0%
	% within: Age of the customer	25.0%	7.4%	20.5%	15.4%	50.0%	17.1%
	% of Total	3.1%	2.9%	6.6%	1.7%	2.9%	17.1%
Yes	Count	17	91	50	23	3	184
	% within: Are you satisfied with the security of e-transactions through internet, mobile or ATMs	9.2%	49.5%	27.2%	12.5%	1.6%	100.0%
	% within: Age of the customer	38.6%	67.4%	44.6%	59.0%	15.0%	52.6%
	% of Total	4.9%	26.0%	14.3%	6.6%	.9%	52.6%
Suspicious	Count	16	34	39	10	7	106
	% within: Are you satisfied with the security of e-transactions through internet, mobile or ATMs	15.1%	32.1%	36.8%	9.4%	6.6%	100.0%
	% within: Age of the customer	36.4%	25.2%	34.8%	25.6%	35.0%	30.3%
	% of Total	4.6%	9.7%	11.1%	2.9%	2.0%	30.3%
Total	Count	44	135	112	39	20	350
	% within: Are you satisfied with the security of e-transactions through internet, mobile or ATMs	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%
	% within: Age of the customer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%

Source: Authors' calculation



**Fig. 3.**  
**Customers satisfied with security of e-transactions (%)**



transactions through internet, mobile or ATMs.

\* 30.3% of customers are suspicious with the security of e-transactions through internet, mobile or ATMs.

\* 14.3% of male customers are not satisfied, 58.1% are satisfied, and 27.6% are suspicious with the security of e-transactions done through internet, mobile or ATMs.

**Table II.**  
**MALE & FEMALE CUSTOMERS SATISFIED WITH THE SECURITY OF E-TRANSACTIONS**

		Satisfied with the security of e-transactions through internet, mobile or ATMs			Total
		No	Yes	Suspicious	
Male	Count	31	126	60	217
	% within : Sex of the customer	14.3%	58.1%	27.6%	100.0%
	% within : Are you satisfied with the security of e-transactions through internet, mobile or ATMs	51.7%	68.5%	56.6%	62.0%
	% of Total	8.9%	36.0%	17.1%	62.0%
Female	Count	29	58	46	133
	% within : Sex of the customer	21.8%	43.6%	34.6%	100.0%
	% within : Are you satisfied with the security of e-transactions through internet, mobile or ATMs	48.3%	31.5%	43.4%	38.0%
	% of Total	8.3%	16.6%	13.1%	38.0%
Total	Count	60	184	106	350
	% within : Sex of the customer	17.1%	52.6%	30.3%	100.0%
	% within : Are you satisfied with the security of e-transactions through internet, mobile or ATMs	100.0%	100.0%	100.0%	100.0%
	% of Total	17.1%	52.6%	30.3%	100.0%

Source: Authors' calculation

21.8% of female customers are not satisfied, 43.6% are satisfied, and 34.6% are suspicious with the security of e-transactions through internet, mobile or ATMs.

20% of professional customers are not satisfied, 52.8% are satisfied, and 27.2% are suspicious with the security of e-transactions done through internet, mobile or ATMs. 12.3% of graduate/post-graduate customers are not

Table III.

## CUSTOMERS OF DIFFERENT EDUCATIONAL LEVEL SATISFIED WITH THE SECURITY OF E-TRANSACTIONS.

		Satisfied with the security of e-transactions through internet, mobile or ATMs			Total
		No	Yes	Suspicious	
Professional/M.B.A./C.A.	Count	36	95	49	180
	% within educational level	20.0%	52.8%	27.2%	100.0%
	% within are you satisfied with the security of e-transactions through internet, mobile or ATMs	60.0%	51.6%	46.2%	51.4%
	% of Total	10.3%	27.1%	14.0%	51.4%
Graduate/PG	Count	19	82	54	155
	% within : Educational level	12.3%	52.9%	34.8%	100.0%
	% within: Are you satisfied with the security of e-transactions through internet, mobile or ATMs	31.7%	44.6%	50.9%	44.3%
	% of Total	5.4%	23.4%	15.4%	44.3%
Inter/Pre-University	Count	5	7	3	15
	% within : Educational level	33.3%	46.7%	20.0%	100.0%
	% within : Are you satisfied with the security of e-transactions through internet, mobile or ATMs	8.3%	3.8%	2.8%	4.3%
	% of Total	1.4%	2.0%	.9%	4.3
%Total	Count	60	184	106	350
	% within : Educational level	17.1%	52.6%	30.3%	100.0%
	% within : Are you satisfied with the security of e-transactions through internet, mobile or ATMs	100.0%	100.0%	100.0%	100.0%

\*p.m : per month, Source of table III, IV : Authors' calculation

Table IV.

## CUSTOMERS OF DIFFERENT AGE GROUPS DOING CASH TRANSACTIONS PER MONTH

		Age of the customer					Total
		Upto 20	21-30	31-40	41-50	51-60	
Upto 4	Count	5	32	16	17	0	70
	% within : How many transactions do you make in cash p.m.	7.1%	45.7%	22.9%	24.3%	0%	100.0%
	% within : Age of the customer	11.4%	23.7%	14.3%	43.6%	0%	20.0%
	% of Total	1.4%	9.1%	4.6%	4.9%	0%	20.0%
Upto 10	Count	7	20	20	6	2	55
	% within : How many transactions do you make in cash p.m.	12.7%	36.4%	36.4%	10.9%	3.6%	100.0%
	% within : Age of the customer	15.9%	14.8%	17.9%	15.4%	10.0%	15.7%
	% of Total	2.0%	5.7%	5.7%	1.7%	.6%	15.7%
More than 10	Count	32	83	76	16	18	225
	% within how many transactions do you make in cash p.m.	14.2%	36.9%	33.8%	7.1%	8.0%	100.0%
	% within age of the customer	72.7%	61.5%	67.9%	41.0%	90.0%	64.3%
	% of Total	9.1%	23.7%	21.7%	4.6%	5.1%	64.3%
Total	Count	44	135	112	39	20	350
	% within how many transactions do you make in cash p.m.	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%
	% within age of the customer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%

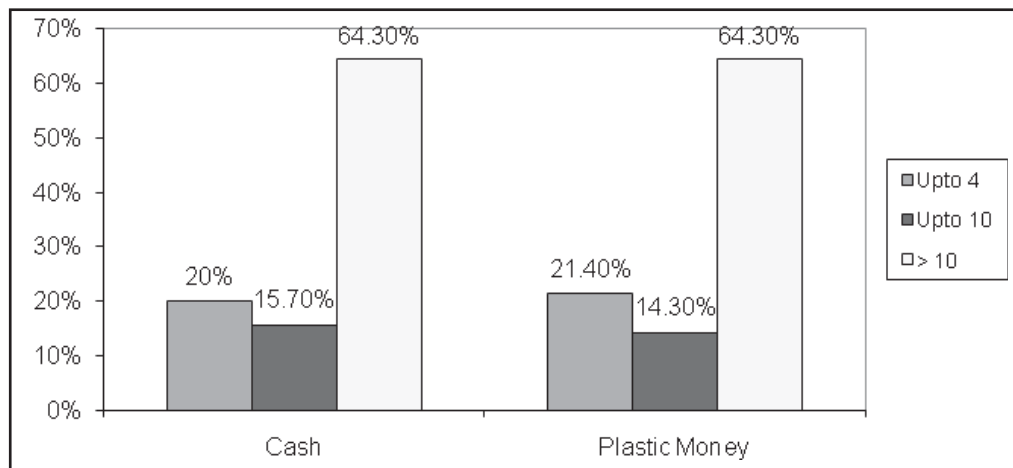
\*p.m : per month, Source of table III, IV : Authors' calculation

**Table V.**  
**CUSTOMERS OF DIFFERENT AGE GROUPS DOING TRANSACTIONS WITH PLASTIC MONEY PER MONTH.**

		age of the customer					Total
		Upto 20	21-30	31-40	41-50	51-60	
Upto 4	Count	6	29	26	12	2	75
	% within : how many transactions do you make through plastic money p.m.	8.0%	38.7%	34.7%	16.0%	2.7%	100.0%
	% within : Age of the customer	13.6%	21.5%	23.2%	30.8%	10.0%	21.4%
	% of Total	1.7%	8.3%	7.4%	3.4%	.6%	21.4%
Upto 10	Count	8	13	18	9	2	50
	% within : How many transactions do you make through plastic money p.m.	16.0%	26.0%	36.0%	18.0%	4.0%	100.0%
	% within : Age of the customer	18.2%	9.6%	16.1%	23.1%	10.0%	14.3%
	% of Total	2.3%	3.7%	5.1%	2.6%	.6%	14.3%
More than 10	Count	30	93	68	18	16	225
	% within : How many transactions do you make through plastic money p.m.	13.3%	41.3%	30.2%	8.0%	7.1%	100.0%
	% within : Age of the customer	68.2%	68.9%	60.7%	46.2%	80.0%	64.3%
	% of Total	8.6%	26.6%	19.4%	5.1%	4.6%	64.3%
Total	Count	44	135	112	39	20	350
	% within : How many transactions do you make through plastic money p.m.	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%
	% within : Age of the customer	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	% of Total	12.6%	38.6%	32.0%	11.1%	5.7%	100.0%

Source: Authors' calculation

**Fig. 4.**  
**Per month transactions done with cash & plastic money (%)**



Source: Authors' calculation

satisfied, 52.9% are satisfied, and 34.8% are suspicious with the security of e-transactions through internet, mobile or ATMs.

33.3% pre-university customers are not satisfied, 46.7% are satisfied, and 20% are suspicious of the security of e-transactions done through internet, mobile or ATMs.

20% of customers have done upto four transactions, 15.7% have done upto 10 transactions, and 64.3% have done more than 10 transactions in cash per month.

21.4% customers have done upto 4 transactions, 14.3%

have done upto 10 transactions, and 64.3% have done more than 10 transactions in plastic money per month.

#### IV. FINDINGS OF THE STUDY

1) 52.6% of customers are satisfied with the security of e-transactions through internet, mobile or ATMs.

2) 20% of professional customers are not satisfied, 52.8% are satisfied, and 27.2% are suspicious about the security of e-transactions done through internet, mobile

or ATMs.

3) 21.4% of customers have done upto four transactions, 14.3% have done upto 10 transactions, and 64.3% have done more than 10 transactions with plastic money per month.

4) 20% customers have done upto four transactions, 15.7% have done upto 10 transactions, and 64.3% have done more than 10 transactions in cash per month.

## V. RECOMMENDATIONS

1) Various products and services offered by foreign banks in NCR/New Delhi and twin cities of Hyderabad and Secunderabad are quite satisfactory but security still remains a primary concern for the customers.

2) The senior age group and the government officials that hold the foreign banks customers database are still very suspicious of the electronic funds transfers or plastic transactions.

3) Demonetization has actually geared up the process of electronic adaptability which the banks should fully exploit in moving their customers towards digitalization.

## VI. CONCLUSION

Foreign banks operating in India sustain a large population of urban youth, corporate, and higher middle income group customers. The primary governing factors which contribute to their competitive advantage are technological competence and innovations, global connectivity, sophisticated features, upgraded products, and services. The most exclusive wrangle for foreign

banks is the safety, reliability, and dependability issues in electronic transactions. Once, these have been undertaken and fixed, foreign banks can definitely extend their stay in the country for quite some time [6] [7].

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